

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 07140341  
 PUBLICATION DATE : 02-06-95

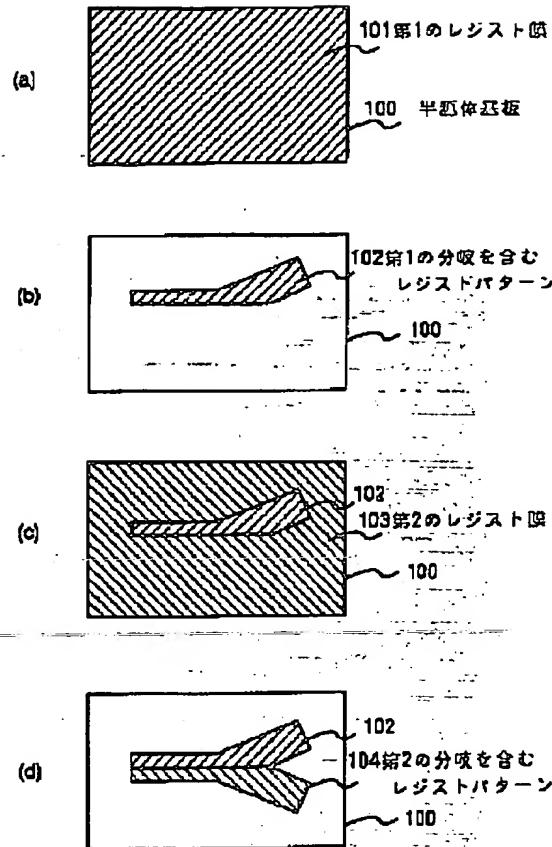
APPLICATION DATE : 17-11-93  
 APPLICATION NUMBER : 05287956

APPLICANT : HITACHI LTD;

INVENTOR : IDO TATSUMI;

INT.CL. : G02B 6/13 G02B 6/122

TITLE : FORMATION OF Y-SHAPED PATTERN



**ABSTRACT :** PURPOSE: To provide the technique of forming a mask pattern including a Y-shaped branch branched at a sharp angle.

**CONSTITUTION:** A resist pattern 102 including a first branch consisting of a first resist film 101 is formed on a semiconductor substrate by using an ordinary lithography technique. After this resist pattern 102 contg. the first branch is cured, the resist pattern 104 including the second branch consisting of a second resist film 103 is formed by using the ordinary lithography technique. As a result, the Y-shaped resist mask having the first branch and second branch branched at the sharp angle is formed. Since the Y-shaped resist mask having the first branch and second branch branched at the sharp angle is formable on the semiconductor substrate 100, the formation of the optical waveguide having the Y-shaped branching part having the first branch and second branch branched at the sharp angle on the semiconductor substrate 100 by etching using the mask is possible. As a result, the light loss occurring in the branching part is drastically lessened.

COPYRIGHT: (C)1995,JPO